

## WorkBlock 4: Extremes: Frequency Severity and Scale

### Major Milestones for the full project duration



Work package	Milestone	Date* month	Description	Relevance to policy makers
WP4.1	M4.1-1	15	Updated/consolidated database with observed and simulated time series (RBHMs) of hydro-meteorological variables for the river basins in Norway, Slovakia and Spain	Unite and update the data set of observed and simulated meteorological and hydrological measurements of the Guadiana basin (Spain), Nitra river basin (Slovakia), Glomma and Laagen river basins (Norway).
WP4.1	M4.1-2	18, 24	Usefulness of large-scale atmospheric circulation and weather type classifications and an initial assessment of the potential to link large-scale drivers to hydrological extremes, which contributes to D 4.1.9.	The occurrence of hydrological extremes (floods and droughts) to weather patterns will be investigated to identify possible links between a flood event (for example) and the associated atmospheric circulation.
WP4.2	M4.2-1	18	Constrained ensembles and on the most promising approach to account for the flow of uncertainty, which contributes to D.4.2.4.	Methodology for assessment of uncertainty in hydrological extremes
WP4.2	M4.2-2	18	Completed setup for testing of twinned ensemble methodology	Methodology in place to start testing of multiple model simulations
WP4.1	M4.1-4	21	Information exchange with scientists of the COST action 733, concerning choice and performance of selected weather type classification methods based on the ERA40 data	Aims at a general numerical method for assessing, comparing and classifying typical weather situations in European regions.
WP4.1	M4.1-9	30	Workshop on simulation of extremes (incl. spatial extent) with GHMs (link WB1, WB4 and WB6)	Date for this workshop is to be decided, announcement will occur via WATCH website
WP4.1	M4.1-10	30	Comparison of extremes as simulated/observed in river basin studies and variability as observed at the regional scale	This comparison aims to assess the uncertainty in predicting extremes.
WP4.1	M4.1-3	36	Space time development and propagation of drought: (a) comparison of selected river basins, and (b) regions (outcome metamodel derived from revised LSHMs)	Can contribute to the mitigation of droughts

\* Project started 02/2007 all months are counted from this starting date

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WP4.1	M4.1-5	39	Weather patterns causing major historical extreme events	Evaluation of past weather events that contribute to the analysis in M4.1-7, where extremes such as floods and droughts are examined.
WP4.1	M4.1-6	36	Overview of major historical extreme events	
WP4.1	M4.1-7	36	Analysis of major historical extreme events with metamodel	Historical droughts and floods studied at the regional and global scales to determine if synchronicity of hydrological extremes occurs and investigate the processes that influence this synchronicity.
WP4.2	M4.2-3	36	Trend detection of gridded data	Develop and test a methodology for assessment of the impact of external forcing on extreme weather events.
WP4.2	M4.2-4	36	Hydrological extremes: uncertainty propagation through climate and hydrological models	Using climate models and water cycle models, the spread of extreme events (flood and drought) will be analysed.
WP4.2	M4.2-5	36	Indices for droughts and large-scale floods	Identification of which variables to be used in predicting droughts and large-scale flood events
WP4.1	M4.1-8	39	Workshop on climate drivers that contributes to Task 4.1.6	Date to be decided, announcement will occur via WATCH website
WP4.1	M4.1-11	42	Attribution of causes for hydrological extremes	Identification of what caused extreme events in the water cycle e.g. leading to drought or major flood events
WP4.3	M4.3-1	42	Future change of droughts	Frequency and severity of droughts in the 21 <sup>st</sup> century
WP4.3	M4.3-2	42	Future change of large-scale floods	Frequency and severity of floods in the 21 <sup>st</sup> century